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OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER
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FLANDERS, ANDREW C

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 10/22/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/435,767

Applicant(s)

KOBAYASHI ET AL.

Examiner

Andrew C Flanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 November 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 11 and 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 8 November 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Objections***

1. Claims 11 and 13 - 15 are objected to because of the following informalities:
2. Regarding Claim 11, on page 43, the first line should apparently read  
“...computer is a WAVE file...”
3. Regarding claim 13, on page 44, the second line should apparently read  
“...external solid state...”
4. Regarding claim 14, on page 44, the sixth line should apparently read “...external solid state...”
5. Regarding claim 15, on page 45 the first line should apparently read “...a single digital audio...” and the second line should apparently read “...audio data files...” and the fifth line should apparently read “...audio data files...”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claim 12 rejected under 35 U.S.C. 102(e) as being anticipated by Terui (U.S. Patent 5,903,871).

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8. Regarding Claim 12, Terui discloses a microphone that produces an analog signal that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7 – 11) (i.e. an A/D converter for converting an analog audio signal collected by a microphone into digital audio data), a flash memory that may be adopted as the incorporated memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for storing said compressed digital audio data), the digital signal from the A/D converter is compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 – 29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to decompressively transform (decode) the data from the main control circuit (col. 3 lines 32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital audio data read out of said internal solid state memory to generate decompressed digital audio data), a D/A converter that converts the digital signal to an analog signal (col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital audio data into an analog audio signal), the analog signal is inputted to a power amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a reproducing means for reproducing said analog audio signal supplied from said D/A converter), a recording medium comprising and IC memory detachably coupled to the voice recording and reproducing apparatus (col. 3 lines 61 – 63) (i.e. a connecting terminal for connecting detachably an external solid state memory), that voice files are recorded to the detachable flash memory card (col. 15 lines 31 and 32) and files are recorded in the memory incorporated in the voice reproducing apparatus (col. 15 lines 48 and 49) (i.e. a solid state memory for storing said compressed digital audio data

instead of or together with said internal solid state memory) and that if the flash memory card has not been installed, the process goes back to step S32 and if the flash memory card has been installed the process goes to step S34 (figure 12 reference S32 – S34 and col. 10 lines 8 and 9) (i.e. wherein when it is detected that the external solid state memory is removed from said external memory connecting terminal during a recording operation using the external solid state memory, the recording operation is temporally interrupted, and after detecting that the relevant external solid state memory is connected to said external memory connecting terminal, the interrupted recording operation is restarted).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243).

11. Regarding Claim 1, Terui discloses a microphone that produces an analog signal that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7 – 11) (i.e. an A/D converter for converting an analog audio signal collected by a microphone into digital audio data), a flash memory that may be adopted as the incorporated memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for storing said compressed digital audio data), the digital signal from the A/D converter is

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compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 – 29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to decompressively transform (decode) the data from the main control circuit (col. 3 lines 32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital audio data read out of said internal solid state memory to generate decompressed digital audio data), a D/A converter that converts the digital signal to an analog signal (col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital audio data into an analog audio signal), the analog signal is inputted to a power amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a reproducing means for reproducing said analog audio signal supplied from said D/A converter) and transferring the recorded dictation data to a personal computer and the data can be managed only by the information in the file (col. 7 line 67 and col. 8 lines 1 and 2) (i.e. an output means for outputting said compressed digital audio data to an external computer such that the compressed digital audio data has a file format which can be directly treated by the external computer). Terui does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes. Omura discloses a new technique for low cost robust voice compression at a rate of 9.6 Kbps or less (page 1). Since there are 8 bits in a byte, this compression technique allows for 1.2 Kilobytes per second ( $9.6 \text{ kilobits per second} / 8 \text{ bits per byte} = 1.2 \text{ kilobytes per second}$ ). At a rate of 1.2 kilobytes per second, 60 seconds of audio data would fit within a file of 72 KB, ( $1.2 \text{ kilobytes per second} \times 60 \text{ seconds}$ ) less than 100 KB (i.e. that the analog audio signal of sixty seconds is

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converted into compressed digital audio data of not larger than 100K bytes). One of ordinary skill in the art at the time of the invention would have been motivated to use Omura's compression scheme in Terui's voice recording apparatus in order to reduce the amount of memory necessary for recording or, extend the amount of voice that can be recorded in a given memory space.

12. Regarding Claim 2, in addition to the elements stated above regarding claim 1, Terui further discloses a recording medium comprising and IC memory detachably coupled to the voice recording and reproducing apparatus (col. 3 lines 61 – 63) (i.e. a connecting terminal for connecting detachably an external solid state memory).

13. Regarding Claim 3, in addition to the elements stated above regarding claim 2, Terui further discloses that voice files are recorded to the detachable flash memory card (col. 15 lines 31 and 32) and files are recorded in the memory incorporated in the voice reproducing apparatus (col. 15 lines 48 and 49) (i.e. wherein said external solid state memory is used to store the compressed digital audio data like as said internal solid state memory).

14. Regarding Claim 4, in addition to the elements stated above regarding claim 2, Terui further discloses that the incorporated memory in the voice reproducing apparatus functions as a storage medium for storing a voice file transmitted from the flash memory card (col. 13 lines 27 – 30) (i.e. wherein a digital data transmission is effected between said internal solid state memory and said external solid state memory).

15. Regarding Claim 5, in addition to the elements stated above regarding claim 2, Terui further discloses that the flash memory card reads out the recorded data and

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supplies it to the DSP (col. 9 lines 17 – 23) (i.e. wherein a digital audio signal stored in said external solid state memory is read out and is supplied to said decompression circuit).

16. Regarding Claim 9, in addition to the elements stated above regarding claim 1, Terui further a flash memory card that is detachably coupled to the voice reproducing apparatus (col. 13 lines 23 and 24) and that a flash memory card may be adopted as the incorporated memory (col. 14 lines 11 – 13) (i.e. wherein said internal solid state memory and external solid state memory are formed by a non-volatile semiconductor memory without a backup battery).

17. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of Flanagan (U.S. Patent 6,128,661).

18. Regarding Claim 6, in addition to the elements stated above regarding claim 1, Flanagan further discloses a mobile device that can communicate with a desktop computer via a serial connection (col. 8 lines 19 and 20) (i.e. a cable connecting terminal to which one end of a connection cable is detachably connected, the other end of said connection cable being connected to external computer). One of ordinary skill in the art at the time of the invention would have been motivated to use Flanagan's connection in conjunction with Terui's voice recording apparatus confidently and quickly transfer data from the recording apparatus to a home personal computer. One would want to do this in order to archive important sound clips such as personal reminders or interview notes.



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19. Regarding Claim 7, in addition to the elements stated above regarding claim 1, Flanagan further discloses a mobile device that can communicate with a desktop computer via an infrared link (col. 8 lines 19 – 21) (i.e. said output means for outputting the compressed digital audio data to the external computer comprises a transmitter which transmits the compressed digital audio data by means of a radio wave signal or an optical signal to a receiver provided in the external computer).

20. Regarding Claim 8, in addition to the elements stated above regarding claim 1, Flanagan further discloses a mobile device that can communicate with the desktop computer through a modem (col. 8 lines 28 – 30) (i.e. a modem and a communication line connecting terminal connected to said modem).

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of Schuster (U.S. Patent 6,125,343).

22. Regarding Claim 10, in addition to the elements stated above regarding claim 1, Schuster discloses that the (ITU-T) G.723.1 vocoder is used to encode voice signals (col. 4 lines 58 and 59) (i.e. wherein said digital compression circuit is constructed such that the digital audio data is compressed in accordance with an audio coding system based on the ITU-T recommendation G723.1). One of ordinary skill in the art would have been motivated to use Schuster's G.723.1 compression scheme on Terui's voice recording apparatus in order to efficiently transfer the compressed sound files. Schuster discloses using G.723.1 one can reliably and efficiently send the encoded audio over a LAN or a plain old telephone service (col. 2 lines 16 –28).

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23. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of Baugher (U.S. Patent 5,581,703) and in further view of Jones (U.S. Patent 6,009,519).

24. Regarding Claim 11, in addition to the elements stated above regarding claim 1, Baugher discloses a file transferred to the host computer for storage over a communications adapter (col. 7 lines 55 – 59) and wherein that file may be a .WAV file (col. 8 line 8) (i.e. wherein said file format of the compressed digital audio data outputted to the external computer is a WAVE file). One of ordinary skill in the art at the time of the invention would have been motivated to use the Baugher's transferring method to transfer common sound files such as WAVE files from Terui's voice recorder to various computers. It would be desirable to have the sound files in WAVE format because many personal computers are typically adapted to handle files such as WAVE files and therefore processing is widely available. Baugher does not disclose a computer that works on windows. Jones discloses a windows computer system (col. 1 lines 56 and 57) (i.e. while the computer works on windows). One of ordinary skill in the art at the time of the invention would have been motivated to use Jones' Windows based computer system to process Baugher's wave files in order to conveniently playback the sound files. It is desirable to be able to control the playback of the sound files in a simple manner (Jones' col. 1 lines 54 – 56).

25. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Takahashi (U.S. Patent 5,196,947).

26. Regarding Claim 13, in addition to the elements stated above regarding claim 12, Takahashi discloses that if a storage medium is detached during transmission of image data a warning is generated (col. 4 lines 63 – 66) (i.e. wherein when the external solid state memory is detected to be removed from the external memory connecting terminal during the recording operation using the external solid state memory, a warning for requesting a user to connect the relevant external solid state memory to the external memory connecting terminal is generated). One of ordinary skill in the art would have been motivated to use Takahashi's warning system with Terui's voice recorder in order to avoid missing important recordings. It is desirable to let the user know that no medium is attached in order to prevent the user to attempt to record without knowing no medium is available to save the sound file.

27. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Saito (U.S. Patent 6,538,687).

28. Regarding Claim 14, in addition to the elements stated above regarding claim 12, Saito discloses an alarming means for giving an alarm to a user when an incorrect memory card inconsistent with an intended object field is inserted (col. 17 lines 23 – 25) (i.e. wherein when it is detected that an external solid state memory different from the external solid state memory which has been removed from the external memory connecting terminal during the recording operation is connected to the external memory connecting terminal, a warning for indication that the currently connected external solid state memory is different from that removed during the recording operation is generated). One of ordinary skill in the art at the time of the invention would have been

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motivated to use Saito's warning system with Terui's recorder for a user to be sure that a correct memory card is inserted at all times. It is desirable to know that a correct card is inserted to avoid recording over previously recorded important material.

29. Claims 15 - 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Yankowski (U.S. Patent 5,751,672).

30. Regarding Claim 15 in addition to the elements stated above regarding claims 1 - 3 Yankowski discloses a play list with a repeat mode (col. 10 lines 4 and 12). A play list may have one or more files available to play. Furthermore, with a mode activated, instead of the list ending after the final song is played, the list will return to the beginning and play again (i.e. a normal reproduction mode in which a single digital audio data file selected from digital audio data files stored in said internal solid state memory and or external solid state memory is reproduced only once, and a single file repeat mode in which a single digital audio data file selected from digital audio data files stored in said internal solid state memory and/or external solid state memory is reproduced repeatedly, and a plural file continuous repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced only once, and a plural file repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced in a repeated manner). One of ordinary skill in the art at the time of the invention would have been motivated to use Yankowski's play list on Terui's voice recording apparatus in order to control various playback

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features. It is desirable to be able to play an audio clip repeatedly in order to discern what might be an unclear recording.

31. Regarding Claim 16, in addition to the elements stated above regarding claim 15, Yankowski further discloses sequentially playing the selected tracks from the play list (col. 4 line 45) (i.e. wherein in said plural file repeat all digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced in a repeated manner).

32. Regarding Claim 17, in addition to the elements stated above regarding claim 15, Yankowski further discloses sequentially playing the selected tracks from the play list (col. 4 line 45) and that the play list has a repeat mode (col. 10 line 12) (i.e. wherein in said plural file repeat reproduction mode, a plurality of digital audio data files selected from all digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced in a repeated manner).

33. Regarding Claim 18, in addition to the elements stated above regarding claim 15, Yankowski further discloses that the user can select as many selections for play in a specified order as desired (col. 9 lines 59 and 60) (i.e. wherein said plural file reproduction mode, the order of reproducing a plurality of digital audio data files is set by a user).

34. Regarding Claim 19, in addition to the elements stated above regarding claim 15, Terui further discloses that a file number (0001 to 9999) is written at a predetermined position in the index information area (col. 10 lines 20 and 21) and Yankowski further discloses sequentially playing the selected tracks from the play list (col. 4 line 45) (i.e.

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wherein a plurality of digital audio data files are stored in said internal solid state memory and/or external solid state memory with ordinary file numbers, and in said plural file continuous reproduction mode, a plurality of digital audio data files from a digital audio data file having a file number denoted by a user to a digital audio data file having the last file number are successively reproduced).

35. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Yankowski (U.S. Patent 5,751,672) and in further view of Kajiyama (U.S. Patent 6,283,764).

36. Regarding Claim 20, in addition to the elements stated above regarding claim 15, Kajiyama further discloses when the user desires to repeatedly play back a specified musical piece, he or she clicks a repeat button and when the repeat button is clicked, the viewer software restarts playing back the musical piece from its beginning upon termination of the playback of the musical piece (col. 13 lines 55 – 60) (i.e. wherein during said plural file continuous reproduction mode or plural file repeat reproduction mode or plural file repeat reproduction mode is automatically interrupted and said single file repeat reproduction mode is automatically started to reproduce repeatedly a currently reproduced digital audio data file). One of ordinary skill in the art at the time of the invention would have been motivated to use Kajiyama's repeat button with Yankowski's play list on Terui's voice recording apparatus in order to control various playback features. It is desirable to be able to repeat something instantaneously during playback if an important piece of speech is heard.

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37. Regarding Claim 21, in addition to the elements stated above regarding claim 15, Kajiyama further discloses that clicking the repeat button again cancels the setting of the repeated playback (col. 13 lines 66 and 67) (i.e. wherein when said automatically started single file repeat reproduction mode is stopped in response to a users operation, the interrupted plural file continuous reproduction mode or plural file repeat reproduction mode is restarted).

38. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Perholtz (U.S. Patent 5,566,339).

39. Regarding Claim 22 in addition to the elements stated above regarding claim 1, Terui further discloses that the main control circuit is coupled to a fixed information storing portion in which information unique to the voice recording and reproducing apparatus is stored before the voice recording and reproducing apparatus is shipped (col. 3 lines 54 – 58) the fixed information storing portion is a read only memory (col. 4 lines 5 – 8) (i.e. wherein said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an area that could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area). Terui does not disclose an alarm data file for storing in the fixed information storage data area. Perholtz discloses alert messages (col. 5 line 2) (i.e. one digital audio file of an alarm message). One of ordinary skill in the art at the time of the invention would have been motivated to store Perholtz's alert messages in Terui's voice recording apparatus' fixed information storage area before shipping in order to make an alarm readily available to the user. It

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is desirable to include a preprogrammed alarm within the voice recorder in order to alert the user when problems using the device arise.

40. Regarding Claim 23, in addition to the elements stated above regarding claim 22, Terui further discloses that if the playing button PLAY has been pressed, a voice reproducing process is implemented and in the voice reproducing process, the recorded data in the flash memory card are read out through the memory card controller and transmitted to the DSP, in which the data are decompressed and transmitted to the D/A converter (col. 12 lines 23 – 28) (i.e. wherein in a normal reproduction mode, only the normal data storage area can be accessed). Perholz discloses that alert messages will be played by the unit should a let situation be detected (col. 5 lines 2 and 3) (i.e. in an alarm reproduction mode, only the alarm data storage area can be accessed).

41. Regarding Claim 24, in addition to the elements stated above regarding claim 22, Perholtz further discloses a microphone provided in the unit to facilitate the capture of user recorded alert messages (col. 5 lines 1 and 2) (i.e. wherein when no alarm message is recorded, an alarm sound is generated at a time present by a user).

42. Claims 25 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Gladstein (U.S. Patent 5,349,668) .

43. Regarding Claim 25, in addition to the elements stated above regarding claim 1, Terui further discloses a battery for supplying electric power to the whole voice recording and reproducing apparatus (col. 3 lines 22 – 24) (i.e. a power source for energizing said circuits and including at least one battery). Gladstein discloses a voltage monitoring means connected to battery banks (col. 12 lines 5 and 6) (i.e. a



battery check circuit for checking an output voltage of said power supply), generating a low battery warning signal when the bank voltage across any one of said banks drops below a predetermined first value (col. 12 lines 10 – 12) (i.e. wherein when the output voltage of the power source is higher than a threshold value at which the apparatus could not work correctly but becomes no higher than a first level, this condition is displayed), said voltage monitoring means further comprising second means for generating a cutoff signal when the bank voltage across any one of the said banks drops below a predetermined second value (col. 12 lines 14 – 17) (i.e. when the output voltage of the power source is higher than said threshold value, but becomes not higher than a second level, this condition is displayed) and when any one of the said banks drops below a predetermined level allowing said computer to save volatile data and power down under program control (col. 12 lines 11 –14) (i.e. when the output voltage of the power source becomes not higher than said second level during the recording operation, data management information for currently recorded digital audio data is automatically saved and the recording operation is automatically stopped). One of ordinary skill in the art would have been motivated to use Gladstein's power monitoring system on Terui's voice recording apparatus in order to avoid data loss. It is desirable for a user to have a warning system to know when battery power is low in order for a system to save important data that may be lost if the power was to suddenly drop.

45. Regarding Claim 26, in addition to the elements stated above regarding claim 15, Gladstein further discloses shutdown means connected to said monitoring means for receiving said warning signal and, in response thereto, initiating saving volatile data and

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powering down said computer (col. 12 lines 21 – 24) (i.e. wherein when the output voltage of the power source reaches a third level lower than said second level but is slightly higher than said threshold value, the power supply to various portions of the apparatus is automatically stopped).

46. Regarding Claim 27, in addition to the elements stated above regarding claim 25, Gladstien further discloses said voltage monitoring means further comprising second means for generating a cutoff signal when the bank voltage across any one of the said banks drops below a predetermined second value (col. 12 lines 14 – 17) (i.e. wherein when the output voltage of the power source becomes not higher than said second level during the recording operation), shutdown means connected to said monitoring means for receiving said warning signal and, in response thereto, initiating saving volatile data and powering down said computer (col. 12 lines 21 – 24) (i.e. using an external solid state memory which is detachably connected to the apparatus, data management information for currently recorded digital audio data is read out of RAM provided in the apparatus and is stored in a FAT area in the external solid state memory, and then the recording operation is stopped).

47. Regarding Claim 28, in addition to the elements stated above regarding claim 25, generating a low battery warning signal when the bank voltage across any one of said banks drops below a predetermined first value (col. 12 lines 10 – 12) and said voltage monitoring means further comprising second means for generating a cutoff signal when the bank voltage across any one of the said banks drops below a predetermined second value (i.e. wherein when the output voltage of the power source is in a range between a

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maximum value and a middle value between the maximum value and said first level, an indication representing this condition is display, and when the output voltage of the power source is in a range between said middle value and said first level, an indication representing this condition is displayed).

48. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) in further view of Yankowski (U.S. Patent 5,751,672) in further view of Perholtz (U.S. Patent 5,566,339) and in further view of Gladstein (U.S. Patent 5,349,668).

49. Regarding Claim 29, Terui discloses a microphone that produces an analog signal that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7 – 11) (i.e. an A/D converter for converting an analog audio signal collected by a microphone into digital audio data), a flash memory that may be adopted as the incorporated memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for storing said compressed digital audio data), the digital signal from the A/D converter is compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 – 29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to decompressively transform (decode) the data from the main control circuit (col. 3 lines 32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital audio data read out of said internal solid state memory to generate decompressed digital audio data), a D/A converter that converts the digital signal to an analog signal (col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital audio data into an analog audio signal), the analog signal is inputted to a power

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amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a reproducing means for reproducing said analog audio signal supplied from said D/A converter) and transferring the recorded dictation data to a personal computer and the data can be managed only by the information in the file (col. 7 line 67 and col. 8 lines 1 and 2) (i.e. an output means for outputting said compressed digital audio data to an external computer such that the compressed digital audio data has a file format which can be directly treated by the external computer) and that if the flash memory card has not been installed, the process goes back to step S32 and if the flash memory card has been installed the process goes to step S34 (figure 12 reference S32 – S34 and col. 10 lines 8 and 9) (i.e. wherein when it is detected that the external solid state memory is removed from said external memory connecting terminal during a recording operation using the external solid state memory, the recording operation is temporally interrupted, and after detecting that the relevant external solid state memory is connected to said external memory connecting terminal, the interrupted recording operation is restarted) and a battery for supplying electric power to the whole voice recording and reproducing apparatus (col. 3 lines 22 – 24) (i.e. a power source for energizing said circuits and including at least one battery). Terui does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes, a battery check circuit for checking an output voltage of said power supply, a normal reproduction mode in which a single digital audio data file selected from digital audio data files stored in said internal solid state memory and or external solid state memory is reproduced only once, a single file repeat mode in which a single digital

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audio data file selected from digital audio data files stored in said internal solid state memory and/or external solid state memory is reproduced repeatedly, a plural file continuous repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced only once, a plural file repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced in a repeated manner, said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an alarm data storage area storing at least one digital audio file of an alarm message, and the digital audio data file stored in the alarm data storage area could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area, when the output voltage of the power source is higher than said threshold value, but becomes not higher than a second level, this condition is displayed, and when the output voltage of the power source becomes not higher than said second level during the recording operation, data management information for currently recorded digital audio data is automatically saved and the recording operation is automatically stopped. Yankowski discloses a play list with a repeat mode (col. 10 lines 4 and 12). A play list may have one or more files available to play. Furthermore, with a mode activated, instead of the list ending after the final song is played, the list will return to the beginning and play again (i.e. a normal reproduction mode in which a single digital audio data file selected from digital audio data files stored in said internal solid state memory and or external solid state memory is reproduced

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only once, and a single file repeat mode in which a single digital audio data file selected from digital audio data files stored in said internal solid state memory and/or external solid state memory is reproduced repeatedly, and a plural file continuous repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced only once, and a plural file repeat mode in which a plurality of digital audio data files stored in said internal solid state memory and/or external solid state memory are successively reproduced in a repeated manner). One of ordinary skill in the art at the time of the invention would have been motivated to use Yankowski's play list on Terui's voice recording apparatus in order to control various playback features. It is desirable to be able to play an audio clip repeatedly in order to discern what might be an unclear recording. Yankowski does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes, a battery check circuit for checking an output voltage of said power supply, said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an alarm data storage area storing at least one digital audio file of an alarm message, and the digital audio data file stored in the alarm data storage area could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area, when the output voltage of the power source is higher than said threshold value, but becomes not higher than a second level, this condition is displayed, and when the output voltage of the power source becomes not higher than said second level during the recording operation, data management

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information for currently recorded digital audio data is automatically saved and the recording operation is automatically stopped. Gladstein discloses a voltage monitoring means connected to battery banks (col. 12 lines 5 and 6) (i.e. a battery check circuit for checking an output voltage of said power supply), generating a low battery warning signal when the bank voltage across any one of said banks drops below a predetermined first value (col. 12 lines 10 – 12) (i.e. wherein when the output voltage of the power source is higher than a threshold value at which the apparatus could not work correctly but becomes no higher than a first level, this condition is displayed), said voltage monitoring means further comprising second means for generating a cutoff signal when the bank voltage across any one of the said banks drops below a predetermined second value (col. 12 lines 14 – 17) (i.e. when the output voltage of the power source is higher than said threshold value, but becomes not higher than a second level, this condition is displayed) and when any one of the said banks drops below a predetermined level allowing said computer to save volatile data and power down under program control (col. 12 lines 11 – 14) (i.e. when the output voltage of the power source becomes not higher than said second level during the recording operation, data management information for currently recorded digital audio data is automatically saved and the recording operation is automatically stopped). One of ordinary skill in the art would have been motivated to use Gladstein's power monitoring system on Terui's voice recording apparatus in order to avoid data loss. It is desirable for a user to have a warning system to know when battery power is low in order for a system to save important data that may be lost if the power was to suddenly drop.

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Gladstein does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes, said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an alarm data storage area storing at least one digital audio file of an alarm message, and the digital audio data file stored in the alarm data storage area could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area. Terui further discloses that the main control circuit is coupled to a fixed information storing portion in which information unique to the voice recording and reproducing apparatus is stored before the voice recording and reproducing apparatus is shipped (col. 3 lines 54 – 58) the fixed information storing portion is a read only memory (col. 4 lines 5 – 8) (i.e. wherein said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an area that could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area). Terui does not disclose an alarm data file for storing in the fixed information storage data area. Perholtz discloses alert messages (col. 5 line 2) (i.e. one digital audio file of an alarm message). One of ordinary skill in the art at the time of the invention would have been motivated to store Perholtz's alert messages in Terui's voice recording apparatus' fixed information storage area before shipping in order to make an alarm readily available to the user. Perholtz does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes. Omura discloses a new technique for low cost robust



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voice compression at a rate of 9.6 Kbps or less (page 1). Since there are 8 bits in a byte, this compression technique allows for 1.2 Kilobytes per second (9.6 kilobits per second / 8 bits per byte = 1.2 kilobytes per second). At a rate of 1.2 kilobytes per second, 60 seconds of audio data would fit within a file of 72 KB, (1.2 kilobytes per second X 60 seconds) less than 100 KB (i.e. that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100K bytes). One of ordinary skill in the art at the time of the invention would have been motivated to use Omura's compression scheme in Terui's voice recording apparatus in order to reduce the amount of memory necessary for recording or, extend the amount of voice that can be recorded in a given memory space.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C Flanders whose telephone number is (703) 305-0381. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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acf

  
**FORESTER W. ISEN**  
**SUPERVISORY PATENT EXAMINER**